

Overview of Subsystem Types for Work Classification

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The subsystem types discussed in this document are used by Workload Management for grouping classification rules in the WLM service definition. These rules map each subsystem's transactions to service classes and report classes.

The following table shows the IBM-supplied subsystem types that workload management supports, the kind of work they run, whether they use address space-oriented transactions or enclaves (see special note for CICS and IMS), and where to go for more information. (Unless otherwise noted below, look for "Workload Manager" in each book.) The second table shows some selected non-IBM subsystems (currently, only SAP R/3), with information on how those subsystems exploit WLM. A table comparing the various transaction types is shown at the end of this document.

Note: Enclaves are transactions that can span multiple dispatchable units in one or more address spaces. See *OS/390 MVS Programming: Workload Management Services* (GC28-1773) for more information on enclaves.

Table 1 (Page 1 of 3). IBM-Defined Subsystem Types			
Sub-system Type	Work Description	Enclave or Address Space	For More Information, See:
ASCH	The work requests include all APPC transaction programs scheduled by the IBM-supplied APPC/MVS transaction scheduler.	Address Space	<ul style="list-style-type: none"> <i>OS/390 MVS Planning: APPC/MVS Management</i> (GC28-1807)
CB	The work requests include all Component Broker client object method requests.	Enclave	<ul style="list-style-type: none"> The online information included with the Component Broker system management user interface
CICS	The work requests include all transactions processed by CICS Version 4 and above.	(See note below.)	<ul style="list-style-type: none"> <i>CICS/ESA Performance Guide</i> (SC33-1183) <i>CICS/ESA Dynamic Transaction Routing in a CICSplex</i> (SC33-1012)

Table 1 (Page 2 of 3). IBM-Defined Subsystem Types

Sub-system Type	Work Description	Enclave or Address Space	For More Information, See:
DB2	The work requests include only the queries that DB2 has created by splitting a single, larger query and distributed to remote systems in a sysplex. The local piece of a split query, and any other DB2 work, is classified according to the subsystem type of the originator of the request (for example, DDF, TSO, or JES).	Enclave	<ul style="list-style-type: none"> • <i>DB2 for OS/390: Administration Guide (SC26-8957)</i>
DDF	The work requests include all DB2 distributed data facility (DDF Version 4 and above) work requests.	Enclave	<ul style="list-style-type: none"> • <i>DB2 for OS/390: Administration Guide (SC26-8957)</i>
IMS	The work requests include all messages processed by IMS Version 5 and above.	(See note below.)	<ul style="list-style-type: none"> • <i>IMS/ESA Administration Guide: System (SC26-8730)</i>
IWEB	The work requests include all requests from the world-wide-web being serviced by the Internet Connection Server (ICS), Domino Go Webserver, or IBM http Server for OS/390. As of OS/390 Release 6, these requests also include those handled by the Secure Sockets Layer (SSL). As of OS/390 Release 7, this also includes transactions handled by the Fast Response Cache Accelerator.	Enclave	<ul style="list-style-type: none"> • <i>HTTP Server Planning, Installing, and Using for OS/390 (SC31-8690)</i>
JES	The work requests include all jobs that JES2 or JES3 initiates.	Address Space	<ul style="list-style-type: none"> • <i>OS/390 JES2 Initialization and Tuning Guide (SC28-1791)</i> • <i>OS/390 JES3 Initialization and Tuning Guide (SC28-1802)</i>
LSFM	The work requests include all work from LAN Server for MVS.	Enclave	<ul style="list-style-type: none"> • <i>OS/390 LAN Server Guide (GC28-1731)</i>
MQ	The work requests include MQSeries Workflow work such as new client server requests, activity executions, activity responses, and sub-process requests.	Enclave	<ul style="list-style-type: none"> • <i>MQSeries Workflow for OS/390 System Management Guide (SC34-5374)</i>
OMVS	The work requests include work processed in OS/390 UNIX System Services forked children address spaces. (Work that comes from an enclave is managed to the goals of the originating subsystem.)	Address Space	<ul style="list-style-type: none"> • <i>OS/390 UNIX System Services Planning (SC28-1890)</i>

Table 1 (Page 3 of 3). IBM-Defined Subsystem Types			
Sub-system Type	Work Description	Enclave or Address Space	For More Information, See:
SOM	The work requests include all SOM client object class binding requests.	Enclave	<ul style="list-style-type: none"> • <i>OS/390 SOMobjects Configuration and Administration Guide</i> (GC28-1851)
STC	The work requests include all work initiated by the START and MOUNT commands. STC also includes system component address spaces such as the TRACE and PC/AUTH address spaces.	Address Space	<ul style="list-style-type: none"> • <i>OS/390 MVS Planning: Workload Management</i> (GC28-1761) Look for “Using the System Supplied Service Classes” in the “Defining Classification Rules” chapter.
TSO	The work requests include all commands issued from foreground TSO sessions.	Address Space	<ul style="list-style-type: none"> • <i>OS/390 Initialization and Tuning Guide</i> (SC28-1751) Look for the discussion of TSO/E transactions in the “System Resources Manager” chapter.

Important Note on CICS and IMS Transactions

CICS and IMS do not use enclaves, but use a different set of WLM services to provide transaction management.

CICS and IMS transactions can be assigned only response time goals (either percentile or average) within single period service classes. If you do not define any goals at all for CICS or IMS work, then the work will be managed to the velocity goals of the address spaces. Once you have defined a transaction goal for CICS or IMS work, then *all* subsequent work will be managed to those transaction goals, *not* to the velocity goals of the address spaces.

For example, you may initially be managing all CICS work to the velocity goals of the CICS address space. If you define a response time goal for a CICS transaction, you will be required to declare a default goal as part of that definition. Now all CICS transactions will be managed to those response time goals, even if they must accept the default.

The following table shows some selected non-IBM subsystems, with information on how customers can define classification rules for these WLM exploiters. The information here may be incomplete and may not reflect recent changes to the exploiting subsystems. Always check the related subsystem documentation for the latest information.

Table 2. Non-IBM Subsystems																																										
Subsystem	Work Description (with Allowable Work Qualifiers, Goals, and Periods)	For More Information, See:																																								
SAP R/3	<p>Each SAP R/3 work process has an associated type, corresponding to the allowable transaction name qualifiers listed below. The ICLI server maps each work process type to one of eight pre-existing enclaves, each with its own performance goal. These enclaves are started at ICLI server startup time, and are deleted when the ICLI server is shut down. Therefore, only velocity goals are appropriate, with single periods.</p> <p>Allowable Work Qualifiers:</p> <ul style="list-style-type: none"> Transaction Name — must be one of: <ul style="list-style-type: none"> DIALOG BATCH UPDATE UPDATE2 GENERIC SPOOL ENQUEUE UNKNOWN Userid — the userid of the user who started the ICLI server <p>When defining the classification rules for SAP, use the Userid (UI) qualifier with the user who started the ICLI server, and then the Transaction Name (TN) qualifiers (with the exact names shown above) as the subrules. Example:</p> <p>Subsystem Type SAP</p> <table border="0"> <thead> <tr> <th colspan="2">----Qualifier----</th> <th colspan="2">-----Class-----</th> </tr> <tr> <th>Type</th> <th>Name</th> <th>Service</th> <th>Report</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>DEFAULT: DISCRET</td> <td>_____</td> </tr> <tr> <td>1</td> <td>UI ICLIRUN</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>2</td> <td>TN GENERIC</td> <td>LOWVEL</td> <td>_____</td> </tr> <tr> <td>2</td> <td>TN DIALOG</td> <td>DIALOG</td> <td>_____</td> </tr> <tr> <td>2</td> <td>TN UPDATE</td> <td>UPDATE</td> <td>_____</td> </tr> <tr> <td>2</td> <td>TN UPDATE2</td> <td>HIGHVEL</td> <td>_____</td> </tr> <tr> <td>2</td> <td>TN SPOOL</td> <td>LOWVEL</td> <td>_____</td> </tr> <tr> <td>2</td> <td>TN BATCH</td> <td>BATCH</td> <td>_____</td> </tr> </tbody> </table> <p>Note: In this example, ENQUEUE and UNKNOWN work defaults to the DISCRET service class.</p>	----Qualifier----		-----Class-----		Type	Name	Service	Report			DEFAULT: DISCRET	_____	1	UI ICLIRUN	_____	_____	2	TN GENERIC	LOWVEL	_____	2	TN DIALOG	DIALOG	_____	2	TN UPDATE	UPDATE	_____	2	TN UPDATE2	HIGHVEL	_____	2	TN SPOOL	LOWVEL	_____	2	TN BATCH	BATCH	_____	<ul style="list-style-type: none"> <i>SAP R/3 on DB2 for OS/390: Planning Guide (SC33-7964)</i>
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If you have a subsystem *not* included in either of the above tables, you should check its documentation for the kind of work requests supported by workload management and the applicable work qualifiers.

The following table summarizes the key differences among the service classes for enclave transactions, address space-oriented transactions, and CICS/IMS transactions.

Table 3. Enclave Transactions, Address Space-Oriented Transactions, and CICS/IMS Transactions			
Transaction Type	Allowable Goal Types	Allowable Number of Periods	RMF (or Other Monitor) Reporting
Address Space-Oriented	<ul style="list-style-type: none"> • Response Time • Execution Velocity • Discretionary 	Multiple	<ul style="list-style-type: none"> • IOC, CPU, MSO, and SRB service consumption reported • Execution delays reported
Enclave	<ul style="list-style-type: none"> • Response Time • Execution Velocity • Discretionary 	Multiple	<ul style="list-style-type: none"> • CPU service consumption reported • Execution delays reported • “Served by” reported for enclaves using TCBS
CICS/IMS	<ul style="list-style-type: none"> • Response Time 	1	<ul style="list-style-type: none"> • No service consumption reported (reported under regions) • No execution delays reported (reported under regions) • “Service Classes Being Served” reported (for service classes assigned to the server address spaces) • “Response Time Breakdown in Percentage” reported

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- CICS
- CICS/ESA
- DB2
- IBM
- IMS
- IMS/ESA
- MVS/ESA
- RMF
- SOM
- SOMobjects
- TSO/E